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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/676,742	09/29/2000	Frank Sacca	00CXT0030C	2293

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FARJAMI & FARJAMI LLP
26522 LA ALAMEDA AVENUE, SUITE 360
MISSION VIEJO, CA 92691

EXAMINER	
JAMAL, ALEXANDER	
ART UNIT	**PAPER NUMBER**
2643	14

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/676,742	SACCA, FRANK	
	Examiner	Art Unit	
	Alexander Jamal	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-13,15,16 and 18-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-13,15,16,18-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1,3-12** rejected under 35 U.S.C. 103(a) as being unpatentable over Rahamim et al. (6351530), and further in view of Pitsch (6163447) and Hill et al. (5642416).

As per **claim 1,** Rahamim discloses a data access arrangement comprising a network interface circuitry 114 (Fig. 4A, Col. 4, lines 33-42) and a diode Bridge 310 with a first pair of terminals coupled to the network and a second pair of terminals coupled to the network interface circuitry: (Fig. 4B, Col. 9, lines 44-50). However, Rahamim does not disclose a high voltage-clamping device disposed between the second pair of diode bridge terminals coupled to the network interface circuitry, a first capacitor coupled between a modem circuit side terminal and ground, and a second capacitor coupled between the other modem circuit side terminal and chassis ground.

Pitsch teaches that telephone and modem equipment may experience damaging signal conditions which may expose the interface circuitry to an over voltage condition (Col 1 lines 12-30). He discloses sidactor™ S coupled across the terminals of the diode bridge on the network interface side (Fig. 1, Col. 4, lines 15-24). The voltage clamping

device limits the maximum voltage to which the line side (modem) circuitry is exposed to during longitudinal and metallic voltage surges. It would have been obvious to one of ordinary skill in the art at the time of this application to utilize a high-voltage clamping device in the same way as Pitsch in order to protect the modem circuitry from an over-voltage condition.

Hill teaches that telephone equipment is often used in environments with RF signals that may interfere with or disable the equipment. Hill teaches a solution of adding capacitors (Fig. 1: C1, C2) from each terminal such that the effective impedance to earth at each capacitor is much less than the impedance of the signal path caused by the mutual capacitance of the telephone device casing to earth ground. This will allow the RF signal to pass around the sensitive circuitry instead of an unknown or undesired path through the circuitry (Col 4, lines 35-52). It would have been obvious to one of ordinary skill in the art at the time of this application to place two capacitors, one from each terminal of the diode bridge to chassis ground directly before the active circuitry of the data equipment in order to reduce unwanted RF signals in the active circuitry. Furthermore, it would have been obvious that the capacitors would be placed on the modem circuitry side of the diode bridge for the purpose of allowing them to be protected by the over-voltage devices.

As per **claim 3,** in Fig. 4B Rahamim discloses a data access arrangement with a high voltage-clamping device 308 disposed between the first pair of terminals (coupled to network connection 190) of diode bridge 310.

As per **claim 4,** in Fig. 4B Rahamim discloses capacitors 304 and 306 coupled between chassis ground and the first pair of terminals of diode bridge 310.

As per **claim 5,** Rahamim discloses a telephone connection 190 (Fig. 4B). He also mentions that the data access arrangement may receive signals through a standard connection such as an RJ-11 jack (Col. 2 lines 12-14).

As per **claim 6,** Rahamim mentions that the voltage clamping device 308 (Fig. 4B) used could be either a metal oxide varistor or a Sidactor™. It would have been obvious to one of ordinary skill in the art at the time of this application that the voltage clamping device described in applicant's Claim 1, and disclosed by Pitsch could have been a metal oxide varistor instead of a Sidactor™.

As per **claim 7,** the high voltage clamping device described by Pitsch is a Sidactor™ (Col. 3, lines 45-50).

As per **claim 8,** Rahamim and Pitsch disclose applicant's claim 1, but they do not mention a specific voltage and current rating of the voltage clamping device being used. Since the device is meant to protect the surrounding circuitry from transient surges in voltage/current, it would have been obvious to one of ordinary skill in the art at the time of this application to select the maximum rated values of the voltage clamping device such that the surrounding circuitry is not damaged during a voltage/current transient.

As per **claim 9,** Rahamim discloses (Fig. 1) system side circuitry 104 which can communicate with a host system interface 116 (Col. 3, lines 13-22). He further discloses a high voltage isolation barrier 100 between network interface circuitry 114 and system side circuitry 104.

As per **claim 10,** Rahamim's high voltage isolation barrier 100 (Fig. 3B) is comprised of capacitor 200.

As per **claim 11,** Rahamim discloses a data access arrangement with programmable line driver circuitry 160, and line/ring impedance circuitry 162 (Fig. 4A). He mentions that the programmability can facilitate compliance with a variety of regulatory standards (Col. 8, lines 25-39) that would include xDSL modem standards.

As per **claim 12:** In Fig. 2, Rahamim's data access arrangement comprises transceiver 132, and protocol framing/control unit 138 that format incoming and outgoing data. This allows the system to operate in compliance with a home networking protocol (Col.5 lines 60-65, also in appendix A).

4. **Claims 13,15** rejected under 35 U.S.C. 103(a) as being unpatentable over Rahamim et al. (6351530), and further in view of Pitsch (6163447), Ausmus (WO 9854813), and Hill et al. (5642416).

As per **claim 13,** Rahamim discloses a data access arrangement comprising network interface circuitry 114 (Fig. 4A, Col. 4, lines 33-42) and diode Bridge 310 with a first pair of terminals coupled to the network and a second pair of terminals coupled to the network interface circuitry (Fig. 4B, Col. 9, lines 44-50). However, Rahamim does not disclose a first and second high voltage-clamping device disposed between a first and second terminal of the second pair of diode bridge terminals and ground. He further does not disclose a first capacitor coupled between a modem circuit side terminal and ground,

and a second capacitor coupled between the other modem circuit side terminal and chassis ground.

Pitsch teaches that telephone and modem equipment may experience damaging signal conditions which may expose the interface circuitry to an over voltage condition (Col 1 lines 12-30). He discloses sidactor™ S coupled across the terminals of the diode bridge on the network interface side (Fig. 1, Col. 4, lines 15-24). The voltage clamping device limits the maximum voltage to which the line side (modem) circuitry is exposed to during longitudinal and metallic voltage surges.

Ausmus teaches that high voltage surges can be very damaging to data modems (Pg. 6 lines 4-5). He also teaches that traditional power line filters are applicable in preventing damage to modems from high voltage surges (Pg.2 lines 1-2). He teaches a protection configuration with (in Fig. 1) varistor 32 disposed between data communication line 12 and chassis ground 26, and another varistor 34 disposed between data communication line 14 and chassis ground 26. These varistors protect against over-voltage conditions (pg. 6, lines 20-27). Based on the teachings of Pitsch and Ausmus, it would have been obvious to one of ordinary skill in the art at the time of this application to utilize two varistors (as opposed to Pitsch's one varistor) disposed about the data pair in the same way as Ausmus, and located in the same spot as Pitsch in order to protect the modem circuitry from an over-voltage condition.

Hill teaches that telephone equipment is often used in environments with RF signals that may interfere with or disable the equipment. Hill teaches a solution of adding capacitors (Fig. 1: C1, C2) from each terminal such that the effective impedance to earth

at each capacitor is much less than the impedance of the signal path caused by the mutual capacitance of the telephone device casing to earth ground. This will allow the RF signal to pass around the sensitive circuitry instead of an unknown or undesired path through the circuitry (Col 4, lines 35-52). It would have been obvious to one of ordinary skill in the art at the time of this application to place two capacitors, one from each terminal of the diode bridge to chassis ground directly before the active circuitry of the data equipment in order to reduce unwanted RF signals in the active circuitry.

As per **claim 15,** Ausmus specifies that the high voltage clamping device is a varistor.

5. **Claims 16 and 18-20** rejected under 35 U.S.C. 103(a) as being unpatentable over Rahamim et al. (6351530), and Pitsch (6163447), and Hill et al. (5642416).

As per **claim 16** Rahamim discloses a communication device comprising host processing circuitry 116 (Fig. 1), system side circuitry 104 that is coupled to host processing circuitry 116, network interface circuitry 114 (Fig. 1), voltage isolation barrier 100 (Fig. 1) coupled between network interface circuitry 114 and system side circuitry 104, and a diode Bridge 310 with a first pair of terminals coupled to the network and a second pair of terminals coupled to the network interface circuitry: (Fig. 4B, Col. 9, lines 44-50). However, Rahamim does not disclose a high voltage-clamping device disposed between the second pair of diode bridge terminals coupled to the network interface

circuitry, or a first capacitor coupled between a modem circuit side terminal and ground, and a second capacitor coupled between the other modem circuit side terminal and chassis ground.

Pitsch teaches that telephone and modem equipment may experience damaging signal conditions which may expose the interface circuitry to an over voltage condition (Col 1 lines 12-30). He discloses sidactor™ S coupled across the terminals of the diode bridge on the network interface side (Fig. 1, Col. 4, lines 15-24). The voltage clamping device limits the maximum voltage to which the line side (modem) circuitry is exposed to during longitudinal and metallic voltage surges. It would have been obvious to one of ordinary skill in the art at the time of this application to utilize a high-voltage clamping device in the same way as Pitsch in order to protect the modem circuitry from an over-voltage condition.

Hill teaches that telephone equipment is often used in environments with RF signals that may interfere with or disable the equipment. Hill teaches a solution of adding capacitors (Fig. 1: C1, C2) from each terminal such that the effective impedance to earth at each capacitor is much less than the impedance of the signal path caused by the mutual capacitance of the telephone device casing to earth ground. This will allow the RF signal to pass around the sensitive circuitry instead of an unknown or undesired path through the circuitry (Col 4, lines 35-52). It would have been obvious to one of ordinary skill in the art at the time of this application to place two capacitors, one from each terminal of the diode bridge to chassis ground directly before the active circuitry of the data equipment in order to reduce unwanted RF signals in the active circuitry.

As per **claim 18,** Rahamim mentions that the voltage clamping device 308 (Fig. 4B) used could be either a metal oxide varistor or a Sidactor™. It would have been obvious to one of ordinary skill in the art at the time of this application that the voltage clamping device described in applicant's Claim 1, and disclosed by Pitsch could have been a metal oxide varistor instead of a Sidactor™.

As per **claim 19,** Rahamim discloses a telephone connection 190 (Fig. 4B). He also mentions that the data access arrangement may receive signals through a standard connection such as an RJ-11 jack (Col. 2 lines 12-14).

As per **claim 20,** Rahamim's high voltage isolation barrier 100 (Fig. 3B), is comprised of capacitor 200.

Response to Arguments

6. Applicant's arguments filed 6-8-04 have been fully considered but they are not persuasive.

As per applicant's argument concerning the prior art limiting the maximum voltage applied to the line side circuitry during metallic or longitudinal surges, Rahamim, Pitsch and Ausmus all teach surge protectors that are implemented specifically to protect the line side circuitry by limiting metallic and voltage surges. The primary purpose of these circuits is to protect the device attached to the telephone line (and the people using said devices). Examiner notes that it is well known to provide multiple levels of protection for sensitive

circuitry (especially for communications devices that humans come into direct contact with) as discussed in the "Response to Arguments" section of the office action dated 1-28-2004.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 703-305-3433. The examiner can normally be reached on M-F 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 703-305-4708. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9315 for After Final communications.

AJ
July 20, 2004

CURTIS KUNTZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600